THERMOSETTING RESIN COMPOSITIONS CONTAINING BENZOXAZINES AND METHODS FOR USE THEREOF

ABSTRACT

In accordance with the present invention, there are provided novel benzoxazine compounds and thermosetting resin compositions prepared therefrom. Invention compositions are particularly useful for increasing adhesion at interfaces within microelectronic packages. Invention benzoxazines are useful for the preparation of invention compositions with properties which are associated with increased adhesion at interfaces, such as, for example, low shrinkage on cure and low coefficient of thermal expansion (CTE). In another aspect of the invention, there are provided die-attach pastes having increased interfacial adhesion. Invention die-attach pastes include benzoxazine-containing thermosetting resin compositions. In further aspects of the invention, there are provided methods for enhancing adhesive strength of thermosetting resin compositions and methods for enhancing adhesion of a substrate bound to a metallic surface by a thermosetting resin composition.